REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

The subject matter of this application pertains to a hydraulic brake apparatus comprising a tandem brake master cylinder, a separation valve, a pressure control valve unit and a stroke simulator. The tandem brake master cylinder comprises a rod piston and a floating piston, with the rod piston moving in response to operation of a brake-operating member, and the floating piston moving in response to the rod piston. The separation valve is provided in a hydraulic brake circuit connecting the master cylinder and a brake wheel cylinder, and is adapted to establish and shutoff communication between the brake master cylinder and the brake wheel cylinder. The pressure control valve unit controls fluid pressure to be supplied from an external fluid-pressure supply source to the brake wheel cylinder while the separation valve is in a shutoff condition. The stroke simulator mechanism allows the idle stroke of the rod piston and the idle stroke of the floating piston, while the separation valve is in the shutoff condition, to ensure a stroke of the brake-operating member in accordance with the input load to the brake-operating member. In addition, the idle stroke of the floating piston starts during the idle stroke of the rod piston.

The only issue raised in the Official Action involves the rejection of original Claims 1 and 2 based on the disclosure contained in U.S. Patent No. 6,192,685 to *Bourlon et al.*

Bourlon et al. discloses an electro-hydraulic braking installation that includes a brake master cylinder 32. The brake master cylinder includes a control rod 42

actuated by a brake pedal 36, with the control rod 42 in turn actuating a primary piston 44 sliding within the brake master cylinder 32. The master cylinder also includes a secondary piston 60 which also slides within the master cylinder. The primary piston 44 and the secondary piston 60 define primary working chamber 58 and a secondary working chamber 59 within the master cylinder. It is understood from the Official Action that the primary piston 44 disclosed in *Bourlon et al.* corresponds to the claimed rod piston, while the secondary piston 60 corresponds to the claimed floating piston.

One of the differences between the hydraulic brake apparatus at issue here and the disclosure in *Bourlon et al.* is that the idle stroke of the floating piston starts during the idle stroke of the rod piston. The Official Action appears to take the position that the secondary piston 60 (the floating piston) disclosed in *Bourlon et al.* starts during the idle stroke of the primary piston 44 (the rod piston). To better define what is meant by the claimed relationship between the start of the idle stroke of the floating piston relative to the idle stroke of the rod piston, Claim 1 has been replaced with new independent Claim 3. New independent Claim 3 is similar to independent Claim 1, except that it more clearly sets forth the idle stroke of the rod piston and the idle stroke of the floating piston. That is, Claim 3 recites that the rod piston possesses a first valve adapted to establish and shutoff communication between the first pressure chamber and the pressure reservoir, with the rod piston being capable of an idle stroke while the first valve is in the establishing condition. Also, Claim 3 recites that the floating piston possesses a second valve adapted to establish and shutoff communication between the second pressure chamber and the second

reservoir pressure chamber, with the floating piston being capable of an idle stroke while the second valve is in the establishing condition.

Thus, as set forth in Claim 3, during the idle stroke of the rod piston, the first valve establishes communication between the first pressure chamber and the first reservoir pressure chamber and so pressure is not generated in the first pressure chamber by way of the rod piston idle stroke. Also, during the idle stroke of the floating piston, the second valve establishes communication between the second pressure chamber and the second reservoir pressure chamber and so pressure is not generated in the second pressure chamber by way of the floating piston idle stroke. Claim 3 then goes on to recite, in the same manner as original Claim 1, that the idle stroke of the floating piston starts during the idle stroke of the rod piston, meaning that when the floating piston starts to move, no increase in pressure in the first pressure chamber is generated because the first valve maintains the established condition in which the first pressure chamber is communicated with the first reservoir pressure chamber. As discussed in the application, this helps reduce the shock associated with start of movement of the floating piston, thereby improving the operator's feeling of operating the brake-operating member.

Bourlon et al. does not describe that the idle stroke of the secondary piston 60 (floating piston) starts during the idle stroke of the primary piston 44 (rod piston). Rather, as discussed at the top of column 5 of *Bourlon et al.*, when the vehicle operator operates the brake pedal 36, the primary piston 44 first begins to move (i.e., the idle stroke of the primary piston 44 starts). Then, the idle stroke of the primary piston 44 ends so that communication between the primary working chamber 58 and the reservoir 14 is shutoff. Thereafter, the pressure in the primary working chamber

58 begins to increase and then the secondary piston 60 starts to move (i.e., the idle stroke of the secondary piston starts). Thus, at the point in time when the secondary piston 60 (floating piston) begins to move, an increase in pressure in the primary working chamber 58 has already been generated because the idle stroke of the primary piston 44 has already ended. Thus, the idle stroke of the secondary piston starts after completion of the idle stroke of the primary piston. This is to be contrasted with the claimed apparatus in which the idle stroke of the floating piston starts during the idle stroke of the rod piston.

In light of the foregoing, it is respectfully submitted that the claimed hydraulic brake apparatus at issue here is patentably distinguishable over the disclosure contained in *Bourlon et al.* Accordingly, withdrawal of the rejection of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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